SERVICE MANUAL

VEC CONVEYOR OVENS

ELECTRIC CONVEYOR OVENS

3788

VEC3624 SHOWN

MODEL	ML
VEC3018	
10KW	126198
15KW	126401
VEC4018	126199
VEC3624	114836
VEC3632	114837

- NOTICE -

This Manual is prepared for the use of trained Vulcan Service Technicians and should not be used by those not properly qualified. If you have attended a Vulcan Service School for this product, you may be qualified to perform all the procedures described in this manual.

This manual is not intended to be all encompassing. If you have not attended a Vulcan Service School for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained Vulcan Service Technician.

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A product of VULCAN-HART LOUISVILLE, KY 40201-0696
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GENERAL

GENERAL

Procedures in this manual will apply to all models unless specified. Pictures and illustrations can be of any model unless the picture or illustration needs to be model specific.

INSTALLATION

Generally, installations are made by the dealer or others contracted by the dealer or owner.
Detailed installation instructions are included in the "Instructions" manual which is sent with each unit.

OPERATION

Detailed operation instructions are included with each oven.

LUBRICATION

No lubrication is required.

CLEANING PROCEDURES

Detailed cleaning procedures are included in the "Instructions" manual for the appropriate model.

TOOLS

Standard
Standard set of hand tools.
VOM with A.C. current tester
(Any quality VOM with a sensitivity of at least 20,000 ohms per volt can be used).

Special
Temperature tester (thermocouple type).

SPECIFICATIONS

MODEL	TOTAL KW	NOMINAL AMPS PER LINE WIRE				
		3 Phase			1 Phase	
		208V	240V	480V	208V	240V
3018	10	28	24	12	48	42
	15	42	36	18	72	63
4018	15	42	36	18	72	63
3624	30	83	72	36	144	125
3632	30	83	72	36	144	125

REMOVAL AND REPLACEMENT OF PARTS

COVERS AND PANELS

WARNING: UNPLUG UNIT BEFORE SERVICING.

Front Panel

1. Lift up on the panel handle.
2. Pull out on the bottom of the panel.
3. Reverse the procedure to install.

Air Distribution Panels

1. Remove the front panel as outlined under “COVERS AND PANELS”.
2. If removing the bottom air panel, remove the crumb tray.
3. Pull the air distribution panel from the oven.

4. Reverse the procedure to install.

Control Housing

1. Remove the top cover from the control housing.
2. Remove the back panel from the housing.
3. Unplug the lead wires to the control panel components.
4. Remove the remaining section of the control panel housing.
5. Reverse the procedure to install.

Motor Housing

1. Remove the crumb trays from both ends of the conveyor belt.
2. Lift conveyor and move forward enough to remove drive chain from the conveyor belt driven gear.
3. Move the conveyor belt assembly away from the motor housing.
4. Remove the top cover and rear panel from the housing.
5. Remove the remaining section of the motor housing from the oven.
6. Reverse the procedure to install.

CONTROL PANEL COMPONENTS

The following are located in the control panel:

- Solid state relays.
- Transformer.
- Power switch and pilot light.
- Speed control.
- Temperature control.
- Power supply module.
- Hi limit thermostat.

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove the control housing as outlined under "COVERS AND PANELS".
2. Remove the component.
3. Reverse the procedure to install the new component.
4. Check oven for proper operation.

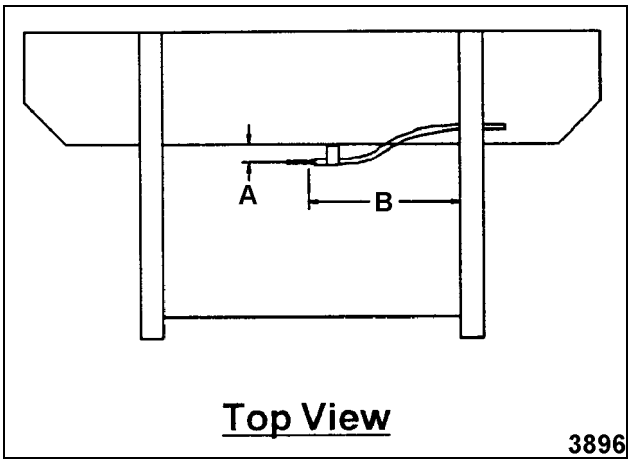
TEMPERATURE PROBE

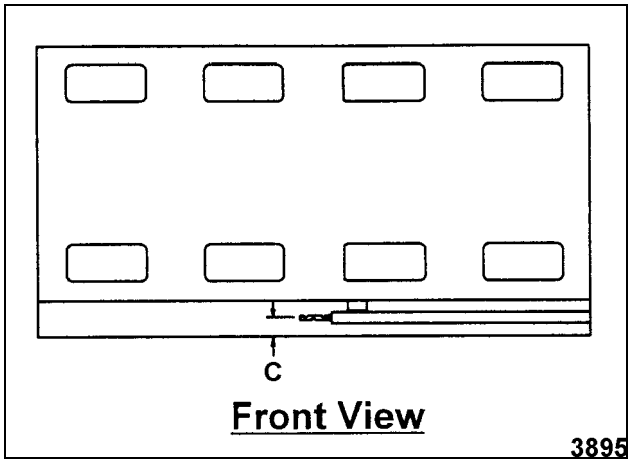
WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove the bottom air distribution panel as outlined under "COVERS AND PANELS".
2. Remove the clamp from the probe routing tube and spread the notches at the end of the tube.
3. Remove the probe from the routing tube.
4. Reverse the procedure to install the new probe.

5. Position the end of the probe as indicated in chart.

MODEL	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"
3018	2-1/4"	9-1/4"	1/2"
4018	2-1/4"	10-5/8"	1/2"
3632 / 3624	1-3/4"	15-3/4"	1-3/16"





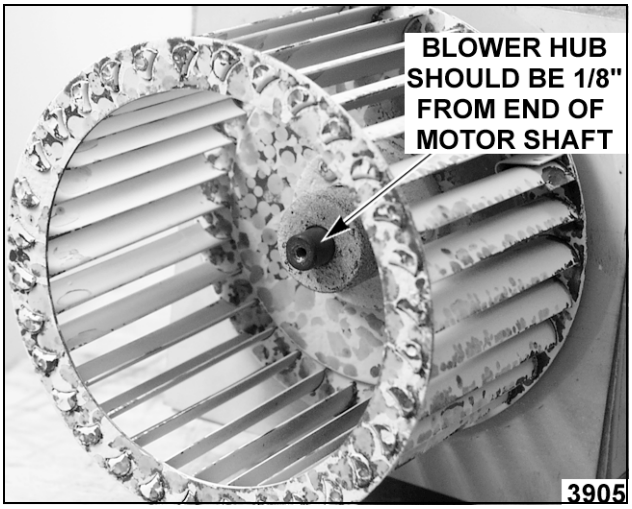
6. Adjust the temperature control as outlined under "TEMPERATURE CONTROL PROGRAMMING AND CALIBRATION" in "SERVICE PROCEDURES AND ADJUSTMENTS".

BLOWER MOTOR

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove the motor housing as outlined under "COVERS AND PANELS".
2. Disconnect the lead wires from the motor.
3. Remove the motor assembly from the air chamber.
   A. Remove the nuts from the mounting studs.
   B. Push down on the rear of the motor to dislodge the front sheet metal shield from the slot in the air chamber.
   C. Pull the motor assembly from the air chamber.

4. Note the location of the blower on the motor shaft.



5. Loosen the set screws on the blower hub and remove the blower from the motor shaft. When installing, blower hub should be 1/8" from end of motor shaft.

NOTE: One of the set screws must align with the flat on the motor shaft.

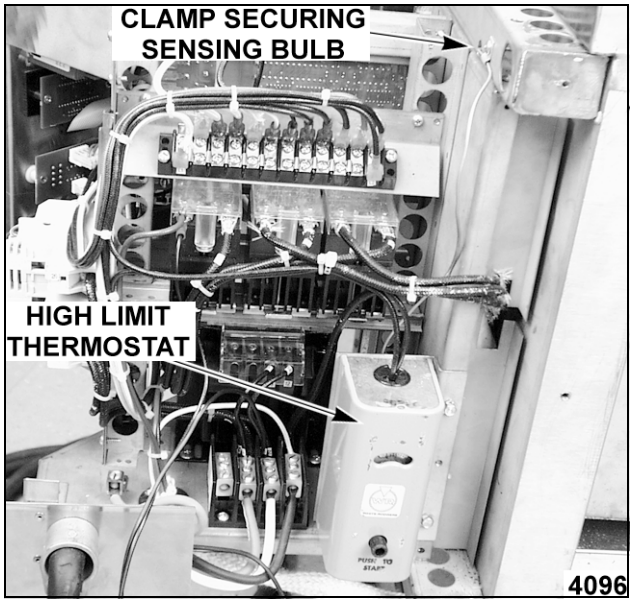
NOTE: If only the blower is being replaced, reverse procedure to install and check blower position as outlined under "BLOWER ADJUSTMENT" in "SERVICE PROCEDURES AND ADJUSTMENTS.

6. Remove the shield and insulation from the motor shaft.
7. Remove the bolts from the motor mounting plate and remove the motor.
8. Reverse procedure to install.

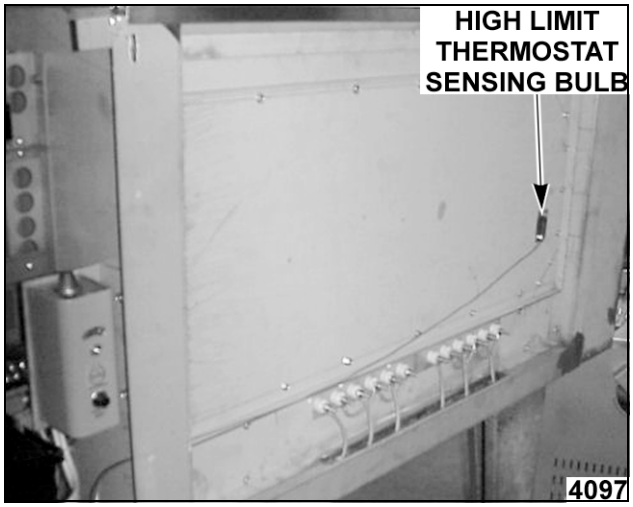
HIGH LIMIT THERMOSTAT

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove back panel from control housing.
2. Pull off thermostat cover and remove screws securing thermostat to mounting bracket.
3. For Models 3018 and 4018, loosen clamp screw and withdraw thermostat sensing bulb from tube.



4. For other models, remove oven back panel and carefully take out insulation.
5. Remove high limit thermostat sensing bulb.



6. Reverse procedure to install.

COOLING FANS

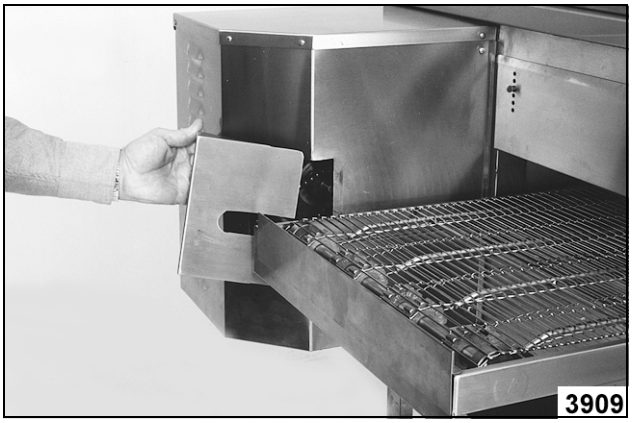
WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove the rear motor housing panel if replacing that fan, or the rear control housing panel if replacing that fan.
2. Disconnect the lead wires from the cooling fan.
3. Remove the fan from the rear panel.
4. Reverse procedure to install.

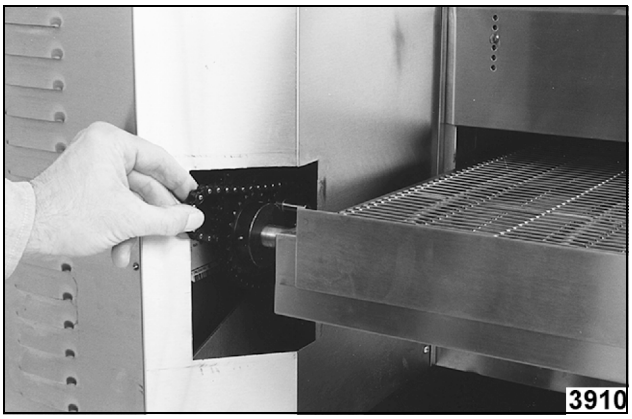
CONVEYOR ASSEMBLY/BELT

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove conveyor crumb trays.
2. Remove cover where conveyor drive shaft enters the motor housing.

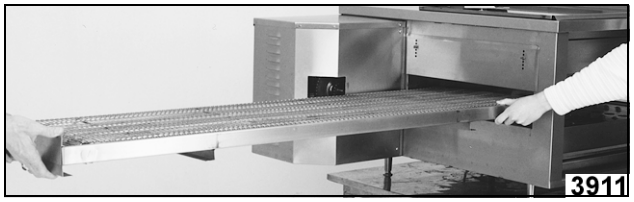


3. Lift up the drive end of the conveyor assembly and slide the conveyor assembly into the oven tunnel to remove the tension on the drive chain. Then slip the drive chain off the conveyor drive sprocket.



4. Pull the entire conveyor assembly from the oven.

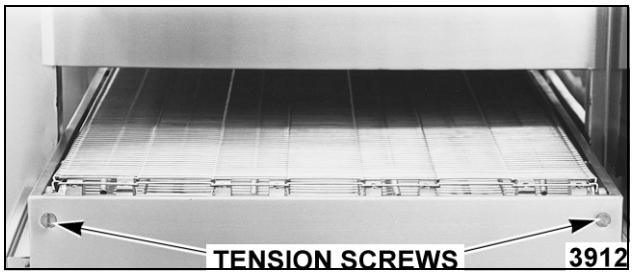
NOTE: Conveyor will need to be lifted so crumb tray slides will clear as assembly is pulled out.



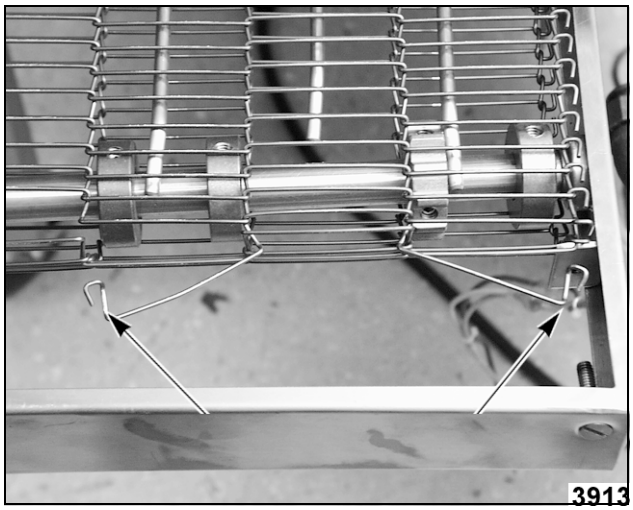
5. To replace conveyor, reverse the procedure.

Conveyor Belt

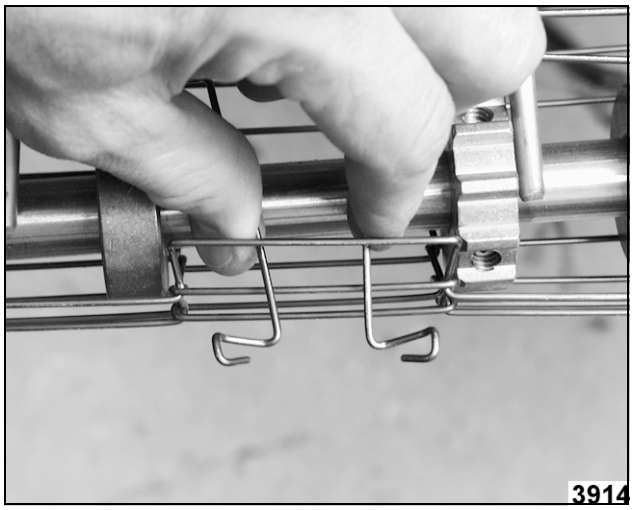
1. Remove conveyor assembly as outlined in ”CONVEYOR ASSEMBLY/BELT”.
2. Loosen belt tension screws at the end of the belt track.



3. Rotate belt manually until you locate the wide end-hooks of the splicing strands where the belt should disconnected.



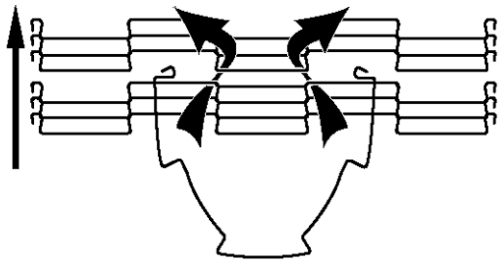
4. Remove splicing strands by unhooking ends and squeezing ends together and withdrawing thru link.



5. Assemble in reverse order. Adjust conveyor belt tension as outlined in “CONVEYOR BELT TENSION”.

CONVEYOR BELT SPLICING

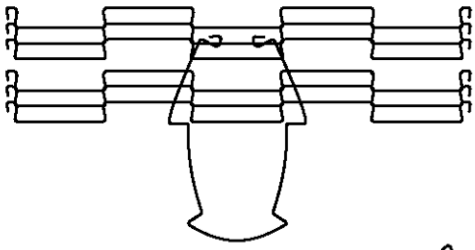
1



Install the conveyor belt so that it always runs with the closed end of the loops in the direction of travel as indicated by arrow.

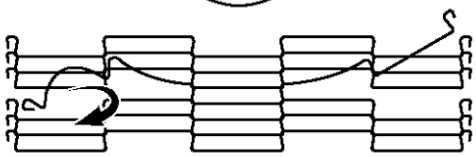
NOTE: The arrows in the belt illustrate the movement of the splicing strand between steps.

2

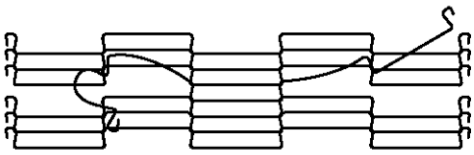


When bending the splicing strand, try to limit bending to straight portions of the strand rather than in the “Z” bend area.

3

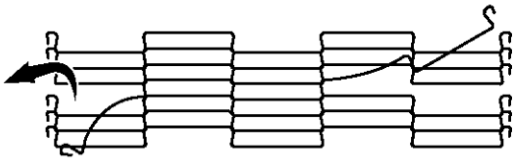


4



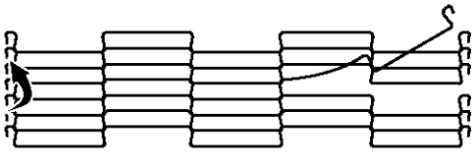
Splice one side completely before starting the other side.

5



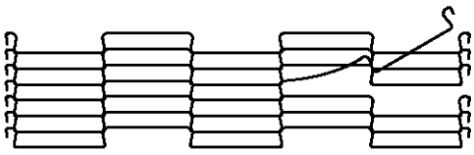
After completely splicing the belt, it is advisable to go along the width of the belt straightening the spliced-in strand.

6



Depending on the width of the belt, there might be one, two, or three splicing strands.

7

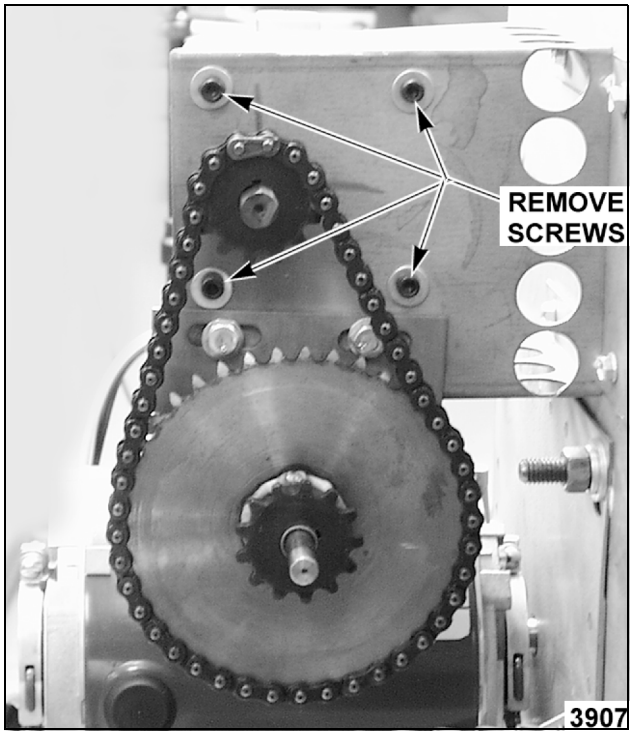


4016

CONVEYOR DRIVE MOTOR

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Perform steps 1 thru 3 in “CONVEYOR DRIVE CHAINS”.
2. Note location of sprocket on motor shaft and remove sprocket.
3. Remove socket head screws securing motor and remove motor.

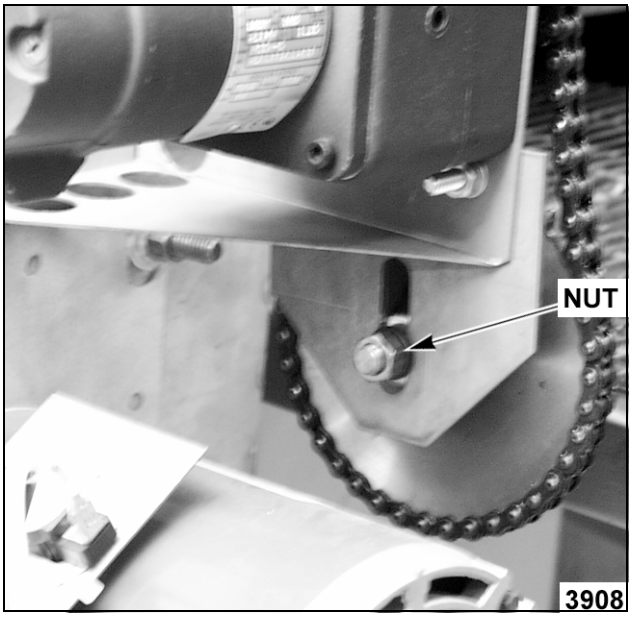


4. Install in reverse order and adjust chain tension as outlined in “DRIVE CHAIN TENSION”.

CONVEYOR DRIVE CHAINS

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove the motor housing as outlined under “COVERS AND PANELS”.
2. Remove motor drive chain by loosening nut on large driven gear shaft. Raise gear and remove chain.



3. Install in reverse order and adjust chain tension as outlined in “DRIVE CHAIN TENSION”.

HEAT ELEMENTS

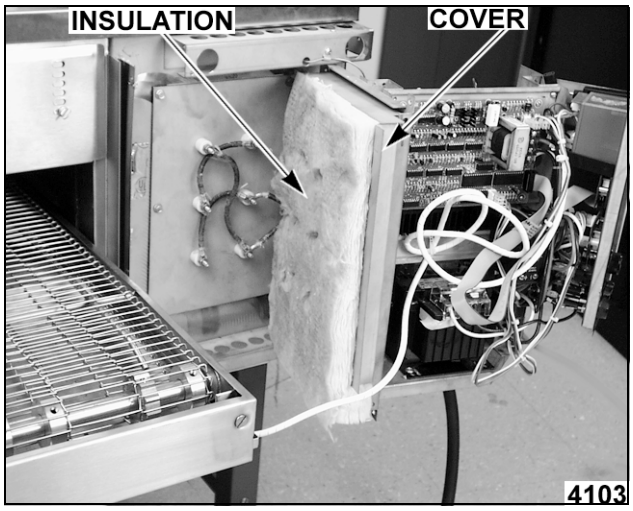
WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove the control housing as outlined under “COVERS AND PANELS”.

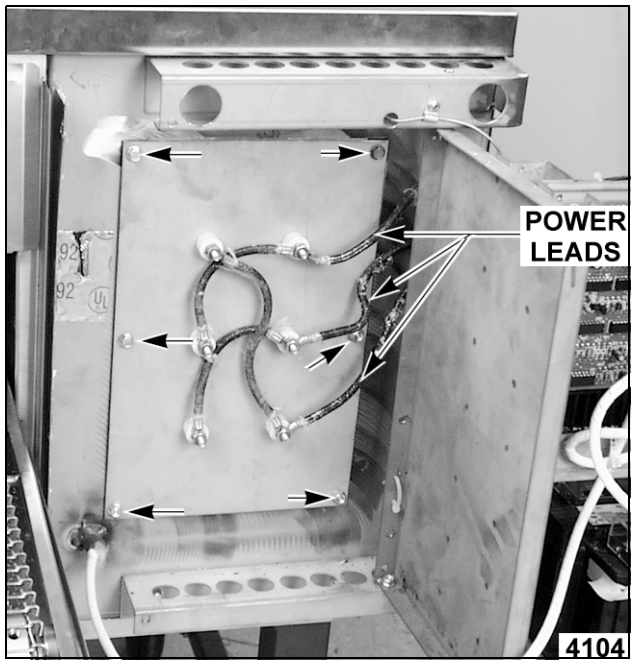
Models 3018 and 4018

1. Remove two screws securing component mounting assembly.

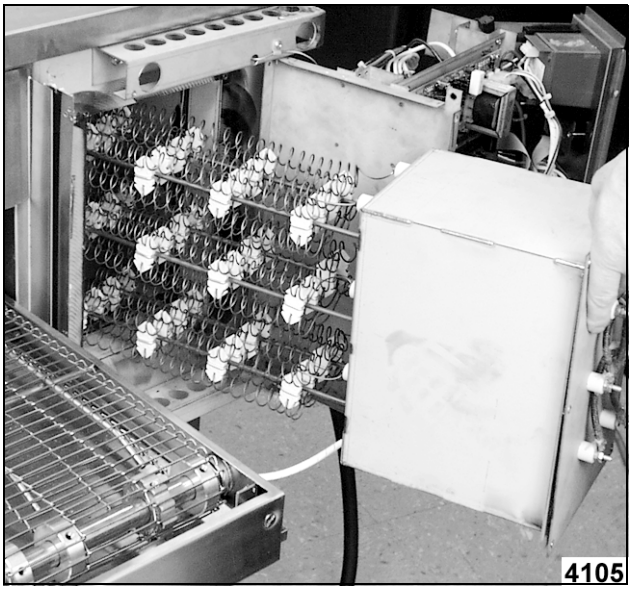
2. Swing out component mount assembly.
3. Remove insulation and cover. Carefully work element wires out of the cutout in cover.



4. Identify and remove power leads from elements.
5. Remove screws securing heater assembly.



6. Carefully pull heater assembly out of chamber.

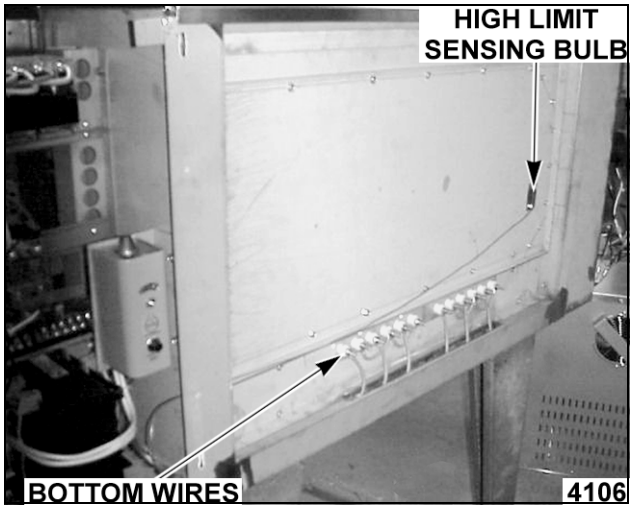


7. Replace elements.

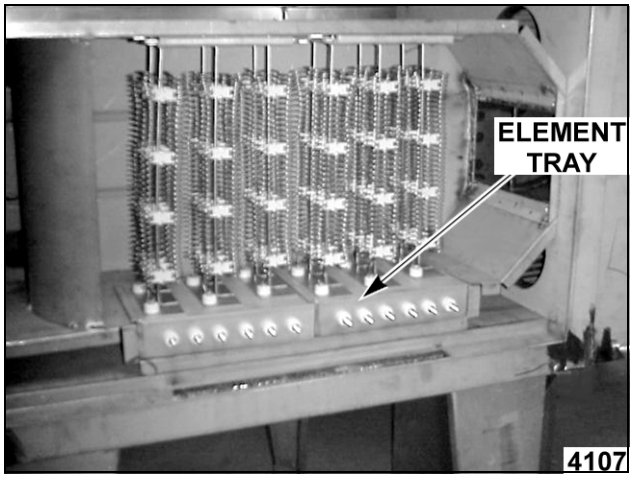
Models 3624 and 3632

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove the control housing as outlined under “COVERS AND PANELS”.
2. Remove oven back panel and insulation.
3. Remove high limit thermostat sensing bulb.
4. Identify and remove bottom wires.



5. Remove inside panel.
6. Carefully pull out element tray.



7. Replace elements.
8. Reverse procedure to install.

SERVICE PROCEDURES AND ADJUSTMENTS

WARNING: CERTAIN PROCEDURES IN THIS SECTION REQUIRE ELECTRICAL TEST OR MEASUREMENTS WHILE POWER IS APPLIED TO THE MACHINE. EXERCISE EXTREME CAUTION AT ALL TIMES. IF TEST POINTS ARE NOT EASILY ACCESSIBLE, DISCONNECT POWER, ATTACH TEST EQUIPMENT AND REAPPLY POWER TO TEST.

BLOWER ADJUSTMENT

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove the blower motor and mounting assembly by following steps 1 thru 4 as outlined under "BLOWER MOTOR" in “REMOVAL AND REPLACEMENT OF PARTS”.
2. Loosen the motor mounting bolts.
3. Adjust the motor position until the blower is parallel to the motor mounting plate.

CAUTION: Ensure that the blower does not hit the heat exchanger.

4. Tighten motor mounting bolts.

NOTE: If the top and bottom of the blower are not parallel to the motor mounting plate, shims should be placed between the motor and the mounting plate.

5. Reverse the procedure to install.

TEMPERATURE CONTROL PROGRAMMING AND CALIBRATION

Programming

NOTE: During programming, after 15 seconds of no activity, the controller will automatically save the settings and return to the temperature display.

1. Turn the power switch off.
2. Press and hold down “S” key on the control.
3. Turn the power switch on. “PrG” will appear on the display.
4. Release the “S” key and “PO” will appear on the display.
5. Press either arrow key until “P85" appears on the display.

NOTE: P85 must be displayed. It is the only entry applicable to these units.

6. Press “S”.
7. Press either arrow key until the display shows “H”. This sets unit to use a “K” type thermocouple and must be used.

NOTE: “J” in the display sets unit for use with a “J” type thermocouple. Do not use this setting.

8. Press “S”.
9. Press either arrow key until the display shows “oF” for °F read-out or “oC” for °C read-out.
10. Press “S”.
11. Press either arrow key until the display shows “nD”. This sets unit for normally de-energized output relay and must be used.

NOTE: If “nE” is selected it sets unit for normally energized output relay and oven will not operate.

12. Press “S”.
13. Press either arrow key until the display shows “FO”. This sets unit for thermostat on and must be used.
14. Press “S”.
15. Press either arrow key until the display shows “HE”. This sets unit for heating mode and must be used.
16. Press “S”.
17. Press either arrow key until the display shows “H5”. This set unit for thermostat cycle time delay and must be used.
18. Press “S” repeatedly to until the normal temperature display is shown.

Calibration

NOTE: During programming, after 15 seconds of no activity, the controller will automatically save the settings and return to the temperature display.

This procedure sets the temperature control to agree with actual cavity temperature.

1. Position temperature tester probe in center of oven cavity.
2. Turn oven on.
3. Set oven temperature control to 500°F set point temperature.

   A. This is done by holding the “S” key in while pressing the arrow keys to raise or lower the temperature. Otherwise the display shows the current measured temperature.

4. Allow the heat to stabilize at the set point. The heat should be occasionally turning off and on.
5. Subtract the temperature tester measured value from 500 and write down the subtracted value. This is the offset value that will be entered into the controller soon.
6. Turn the power off at the oven.
7. Press and hold down “S” key on the control.
8. Turn the power switch on. “PrG” will appear on the display.
9. Release the “S” key and “PO” will appear on the display.
10. Press either arrow key until “P85" appears on the display.

NOTE: P85 must be displayed. It is the only entry applicable to these units.

11. Press “S” repeatedly until the display shows “Co1”. (indicates differential between actual temperature and display temperature)

NOTE: “Co1" only displays for a few seconds then changes to display the value.

12. Press either arrow key to change the displayed value to read the subtracted value obtained in step 5.
13. Press “S” to confirm the value.
14. Press “S” key until the normal temperature display is shown. The adjustment is now finished.

TEMPERATURE PROBE TEST

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Remove the top panel from the control housing.
2. Remove the lower air distribution panel as outlined under “COVERS AND PANELS” in “REMOVAL AND REPLACEMENT OF PARTS”.
3. Place a thermocouple near the temperature probe and record the temperature reading.
4. Remove the probe lead wires from the electronic control.
5. Test the probe with an ohmmeter.

TEMP °F	Ω ±10%
77	90000
240	4077
260	3016
280	2266
300	1726
320	1332
340	1041

TEMP °F	Ω ±10%
360	822
380	656
400	529
425	424
450	334
475	266

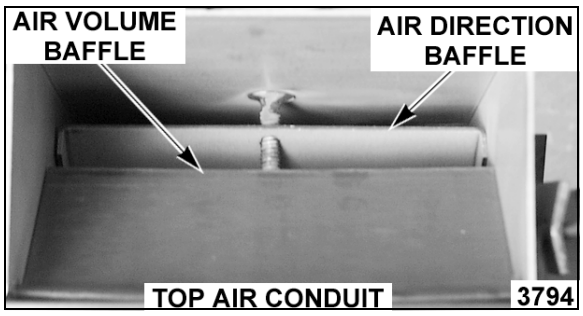
AIR DISTRIBUTION ADJUSTMENT

WARNING: UNPLUG UNIT BEFORE SERVICING.

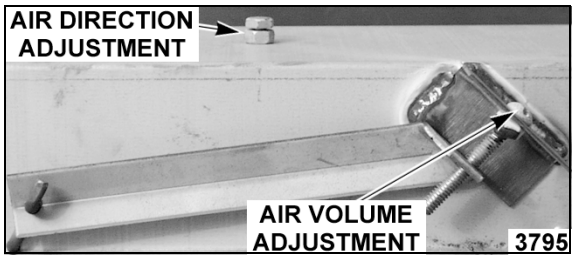
1. Remove the air distribution panel that needs adjusted as outlined under “COVERS AND PANELS” in “REMOVAL AND REPLACEMENT OF PARTS”.
2. Adjust the panels as outlined below under “TOP PANEL” and “BOTTOM PANEL”.
3. Reverse procedure to install.

Top Panel

1. If baking is even, but more or less air is required on the top of the product.
   A. Adjust the air volume screw.
   B. Turn the screw clockwise for more air and counterclockwise for less air.
   C. Turn the screws for the left and right conduits the same number of turns.

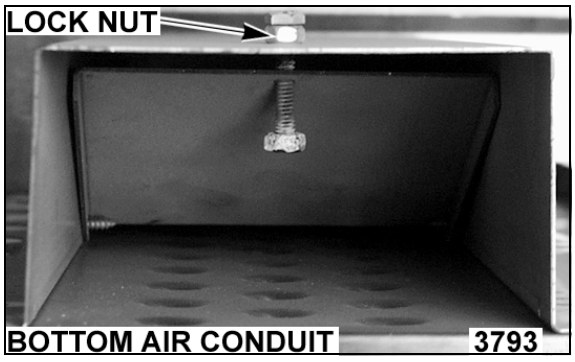


2. If cooking is not even, adjust the air directional screw on top of the conduit.
   A. Loosen the lock nut.
   B. Turn the screw clockwise to shift the air from front to back
   C. Counterclockwise to shift the air from back to front.
   D. Tighten the lock nut.



Bottom Panel

1. If baking is even, but more or less air is required on the top of the product.
   A. Loosen the lock nut.
   B. Turn the screw clockwise to allow more air into the conduit.
   C. Counterclockwise to allow less air into the conduit.
   D. Tighten the lock nut.



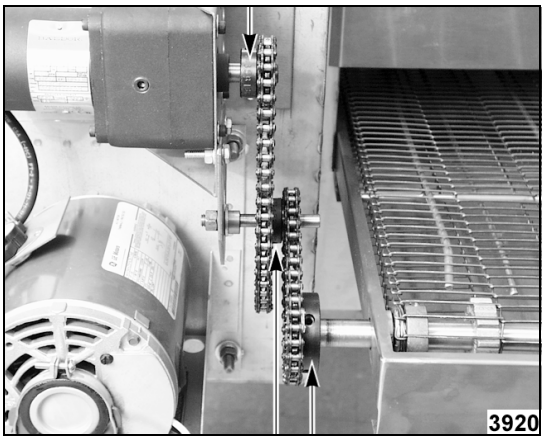
DRIVE CHAIN TENSION

WARNING: UNPLUG UNIT BEFORE SERVICING.

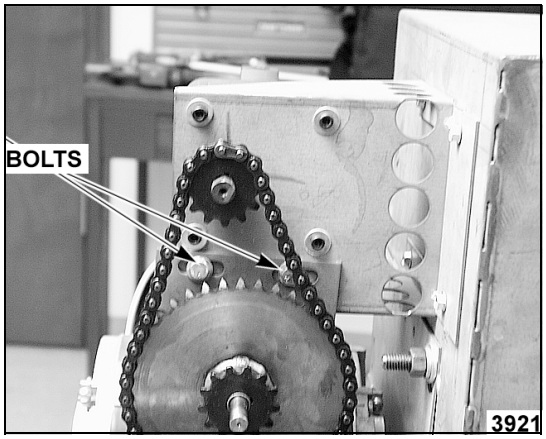
1. Remove the motor housing as outlined under “COVERS AND PANELS”.
2. Reinstall conveyor assembly and reconnect conveyor drive chain.

NOTE: Be sure conveyor is properly seated before adjusting chain tensions.

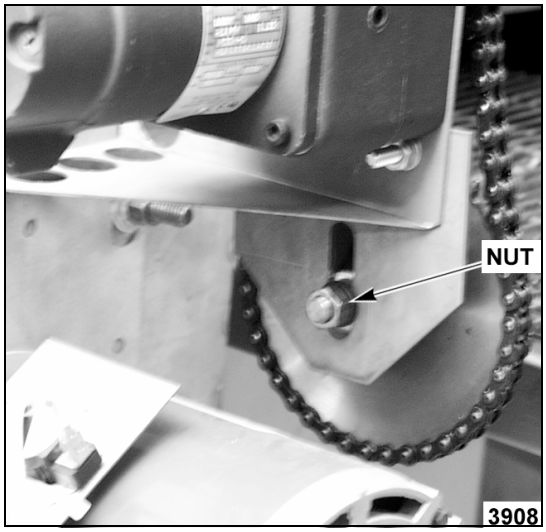
3. Loosen sprocket setscrews and move sprockets as necessary for straight chain tracking.



4. Loosen sprocket mounting bracket bolts and adjust conveyor drive chain for minimum slack between sprockets.



5. Loosen large sprocket shaft mounting nut and adjust motor drive chain for minimum slack between sprockets. Recheck conveyor drive chain tension.

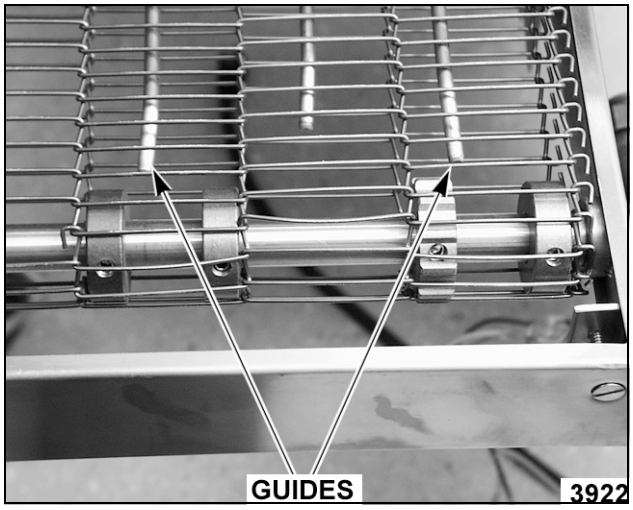


6. Tighten all hardware.

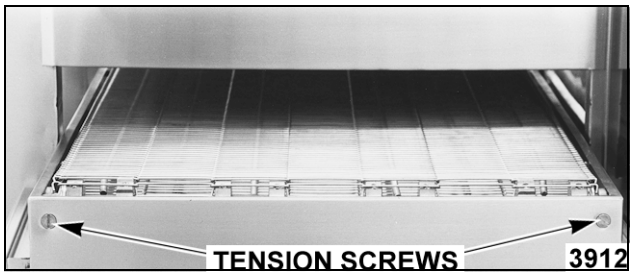
CONVEYOR BELT TENSION

WARNING: UNPLUG UNIT BEFORE SERVICING.

Conveyor must be tight enough so that when loaded with product and running, its links do not catch on the conveyor guides at the drive end of the conveyor.



1. Turn conveyor tension adjusting screws to adjust tension equally at both sides.



HEAT ELEMENT TEST

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Access heat elements as outlined in REMOVAL AND REPLACEMENT OF PARTS.
2. Disconnect wires to individual elements and test according to chart.

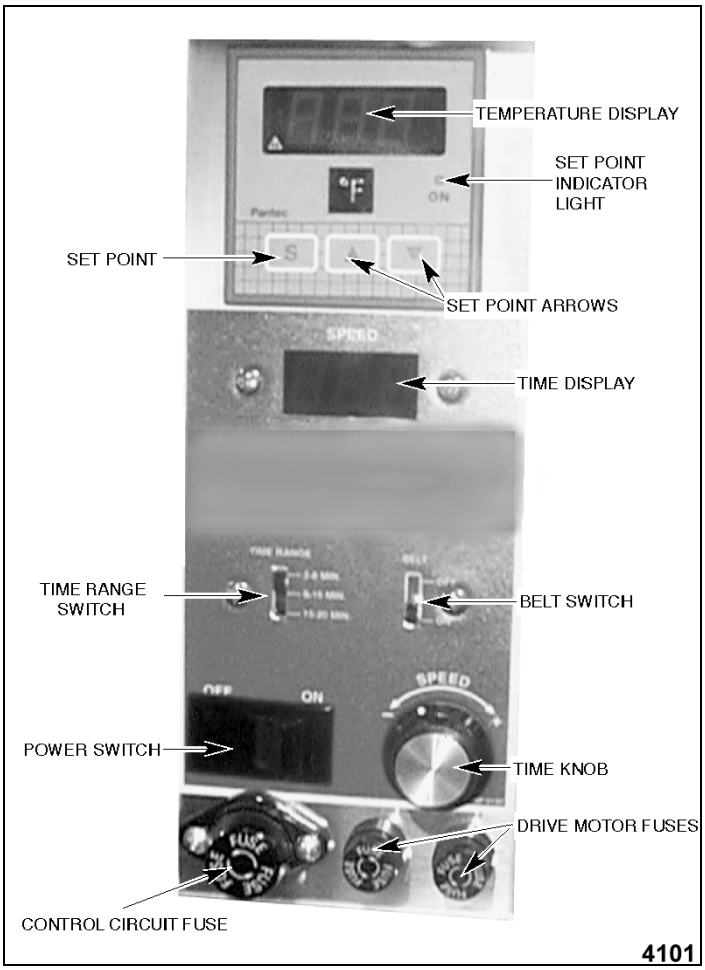
VOLTAGE	WATTAGE	RESISTANCE
480	5KW	46
240	5KW	11.5
230	5KW	10.6
208	5KW	8.65
480	3.34KW	69
240	3.34KW	17.25
230	3.34KW	15.85
208	3.34KW	13

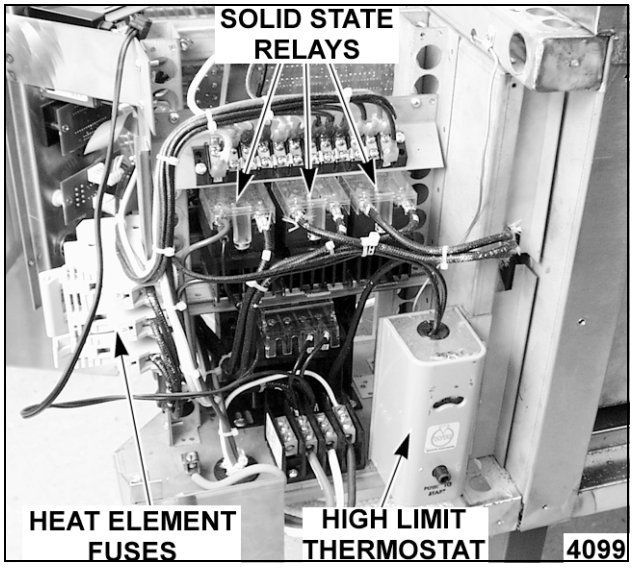
ELECTRICAL OPERATION

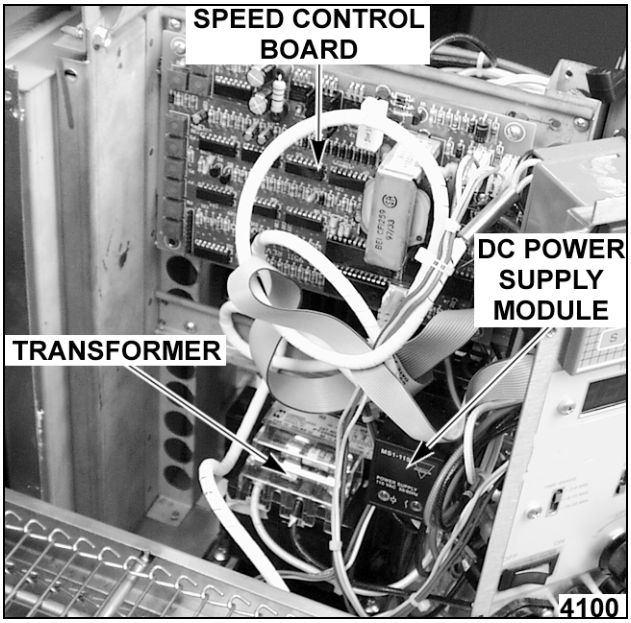
COMPONENT FUNCTION

Power Switch	Controls power to oven controls and components.
Pilot Light	Lit whenever the power switch is on and is a part of the power switch.
High Limit Thermostat .	Manual reset, opens circuit to heat elements if heat chamber exceeds 650°F. Reset button is located at lower rear of control housing.
Speed Control	Controls voltage to dc drive motor to vary speed.
Temperature Control . . .	Monitors temperature sensor and regulates the oven temperature by controlling the heat element circuit.
DC Drive Motor	Turns belt at speeds controlled by the speed control board.
Cooling Fan	Two fans, one circulates air in the motor housing and one circulates air in control housing.
Solid State Relays	Number of relays depends on model of unit. Controls power to blower motor(s), cooling fans and heat elements.
Blower Motor	Operates the oven cavity blower. Some models have two motors.
Temperature Probe	Senses the oven temperature and converts it into a resistance which is monitored by temperature control board.
Power Supply Module . .	Provides 21VDC to heat element solid state relays.
Transformer	Used to provide 110VAC controls voltage.
Heat Elements	Open coil type and number of elements depends on model of unit.

COMPONENT LOCATION



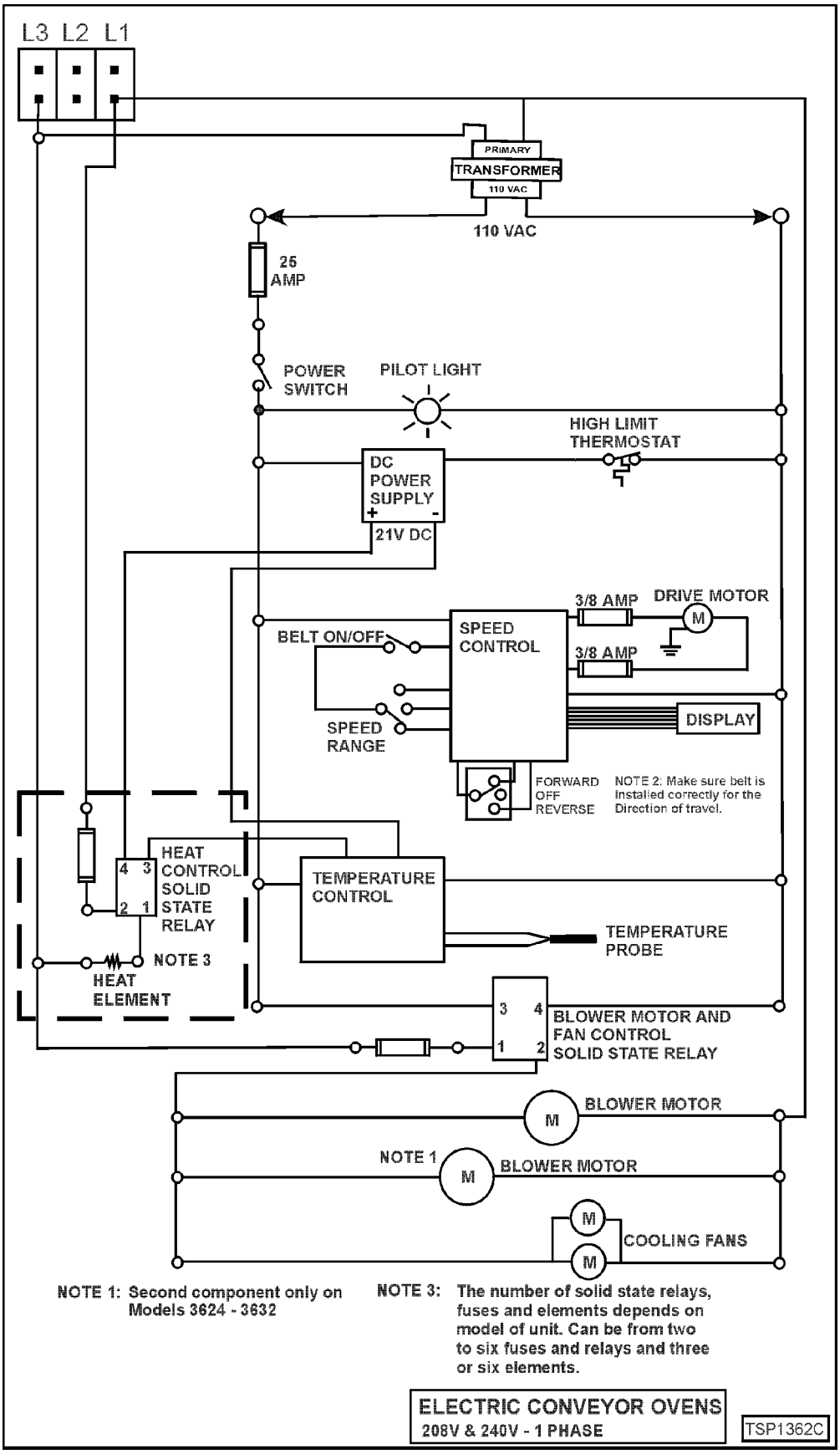




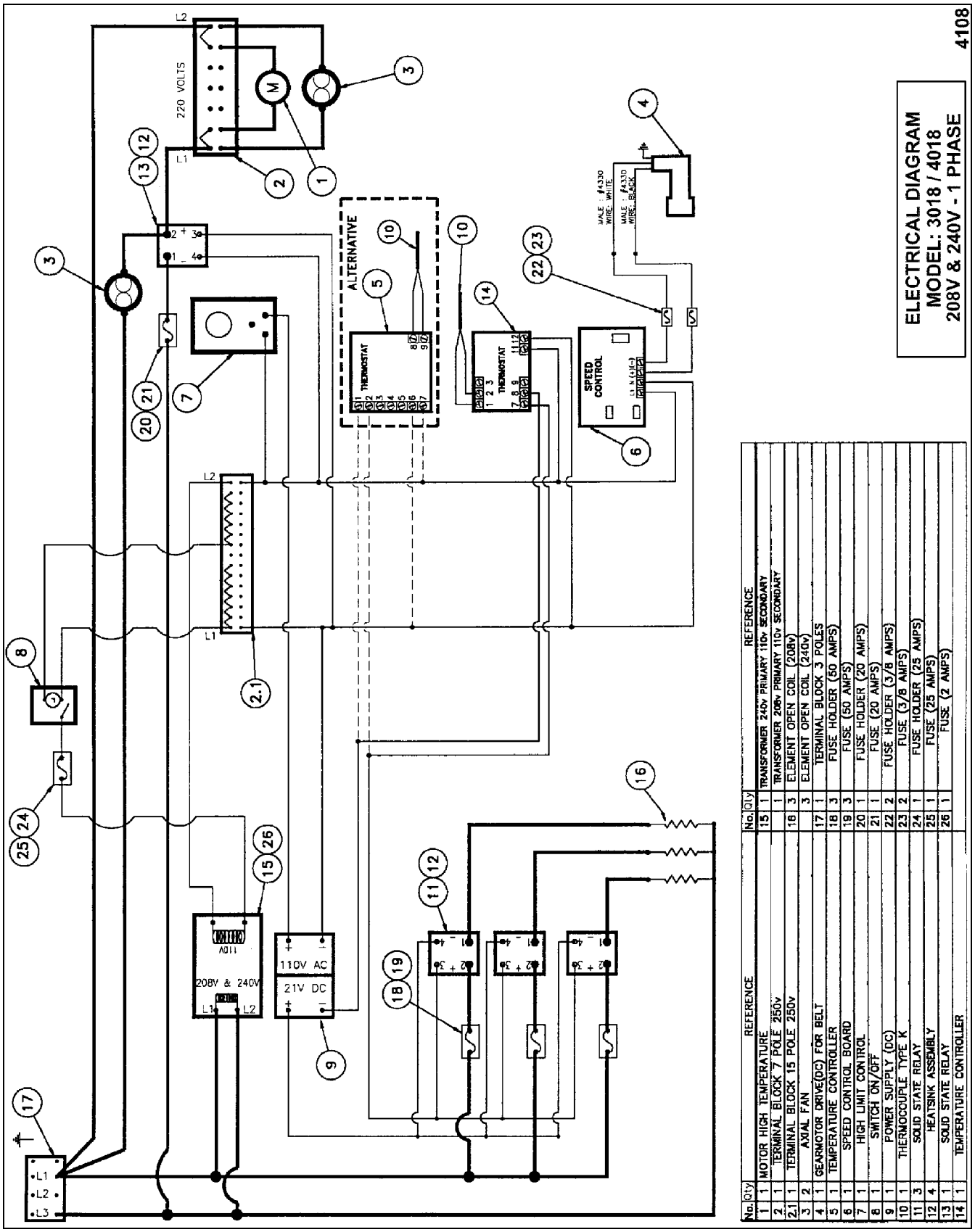
OVEN SEQUENCE OF OPERATION

1. Conditions
   - A. Power switch off.
   - B. Belt switch off
   - C. Speed selection switch to desired position.
   - D. High limit thermostat closed.
   - E. Oven below set point.
   - F. Correct voltage supplied to oven.
2. Power switch turned on.
   - A. 110VAC control voltage to motor and fan solid state relay, high limit thermostat, temperature control, speed control and DC power supply module.
     - 1) DC power supply energizes because high limit contacts are closed.
       - a. DC power supply module supplies 21VDC control voltage to temperature control and element solid state relays.
   - B. Motor and fan solid state relay energizes.
     - 1) Blower motor(s) energized.
     - 2) Cooling fan(s) energized.
   - C. Power to temperature control.
     - 1) If control is calling for heat, 21VDC is supplied to element solid state relays and elements energize.
     - 2) Temperature displayed.
3. Belt switch turned on.
   - A. Drive motor energized.
   - B. Display shows set speed.
4. Oven reaches set temperature.
   - A. Power is removed from the element solid state relays.
     - 1) Elements de-energize.
5. Temperature control continues to cycle elements on and off.

SCHEMATIC DIAGRAM

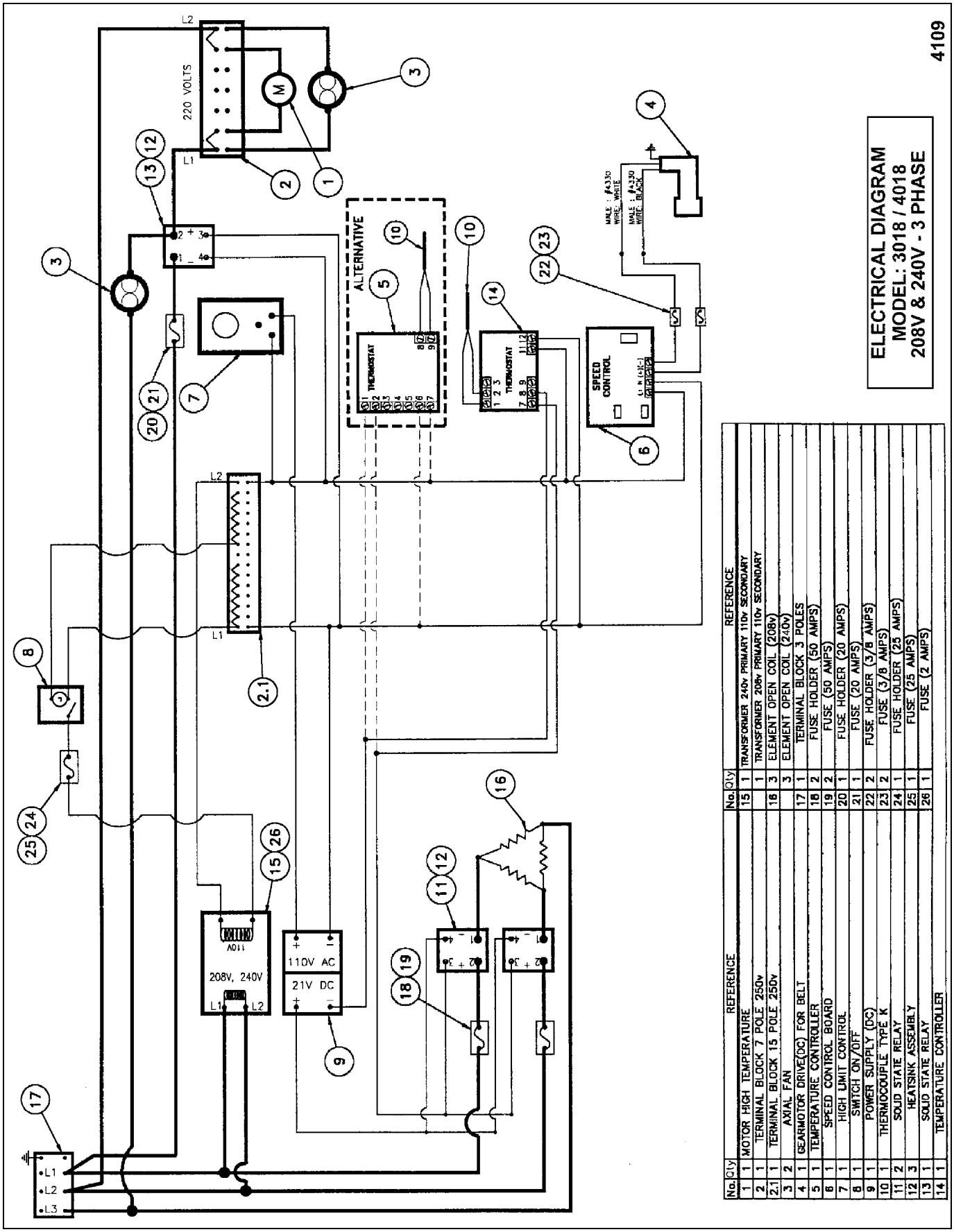


WIRING DIAGRAMS

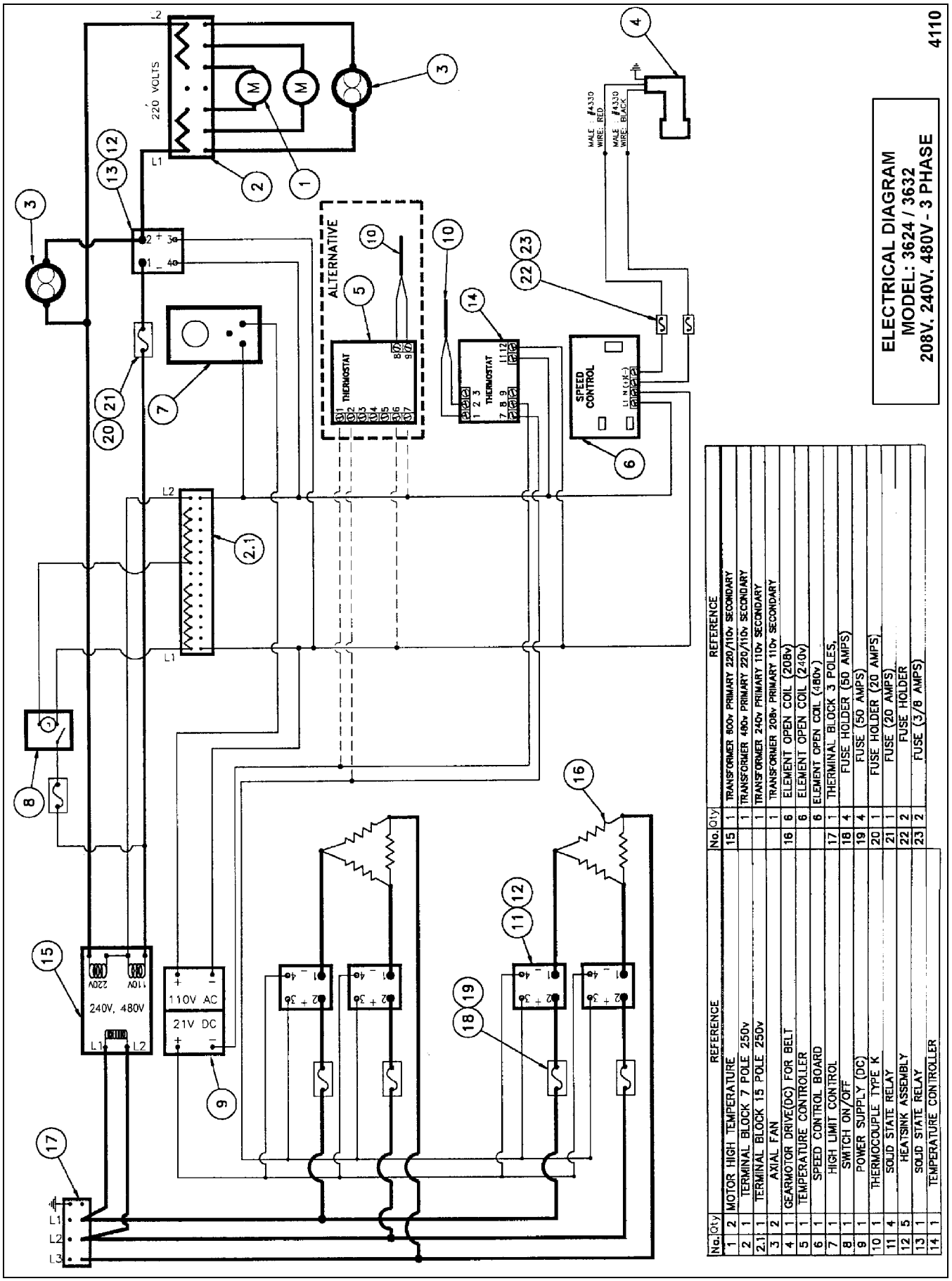


No.	Qty	REFERENCE
1	1	MOTOR HIGH TEMPERATURE
2	1	TERMINAL BLOCK 7 POLE 250v
2.1	1	TERMINAL BLOCK 15 POLE 250v
3	2	AXIAL FAN
4	1	GEARMOTOR DRIVE(DC) FOR BELT
5	1	TEMPERATURE CONTROLLER
6	1	SPEED CONTROL BOARD
7	1	HIGH LIMIT CONTROL
8	1	SWITCH ON/OFF
9	1	POWER SUPPLY (DC)
10	1	THERMOCOUPLE TYPE K
11	3	SOLID STATE RELAY
12	4	HEATSINK ASSEMBLY
13	1	SOLID STATE RELAY
14	1	TEMPERATURE CONTROLLER

No.	Qty	REFERENCE
15	1	TRANSFORMER 240v PRIMARY 110v SECONDARY
16	1	TRANSFORMER 208v PRIMARY 110v SECONDARY
18	3	ELEMENT OPEN COIL (208v)
	3	ELEMENT OPEN COIL (240v)
17	1	TERMINAL BLOCK 3 POLES
18	3	FUSE HOLDER (50 AMPS)
19	3	FUSE (50 AMPS)
20	1	FUSE HOLDER (20 AMPS)
21	1	FUSE (20 AMPS)
22	2	FUSE HOLDER (3/8 AMPS)
23	2	FUSE (3/8 AMPS)
24	1	FUSE HOLDER (25 AMPS)
25	1	FUSE (25 AMPS)
26	1	FUSE (2 AMPS)

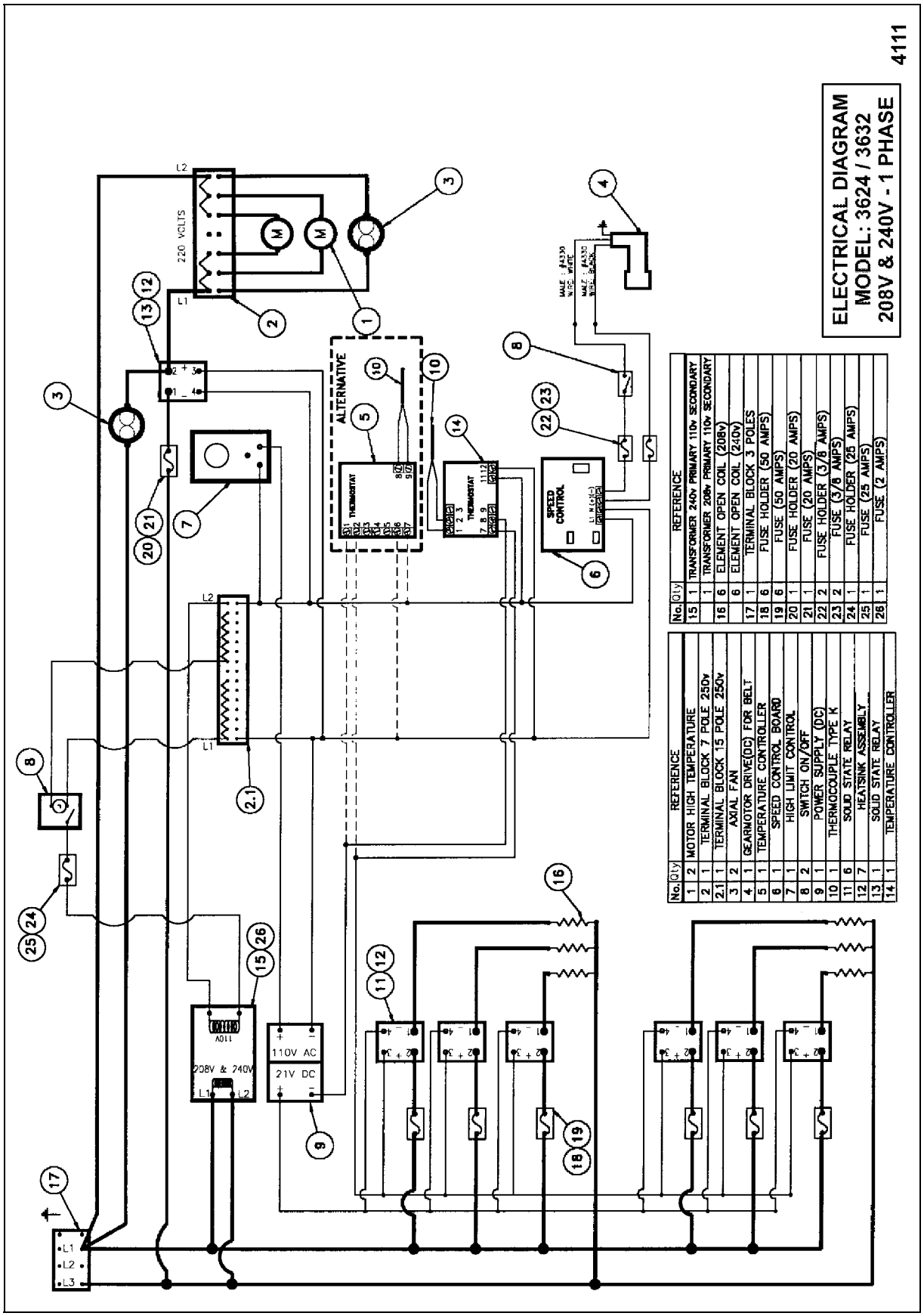


No.	Qty	REFERENCE	No.	Qty	REFERENCE
1	1	MOTOR HIGH TEMPERATURE	15	1	TRANSFORMER 240v PRIMARY 110v SECONDARY
2	1	TERMINAL BLOCK 7 POLE 250v		1	TRANSFORMER 208v PRIMARY 110v SECONDARY
2.1	1	TERMINAL BLOCK 15 POLE 250v	18	3	ELEMENT OPEN COIL (208v)
3	2	AXIAL FAN		3	ELEMENT OPEN COIL (240v)
4	1	GEARMOTOR DRIVE(DC) FOR BELT	17	1	TERMINAL BLOCK 3 POLES
5	1	TEMPERATURE CONTROLLER	18	2	FUSE HOLDER (50 AMPS)
6	1	SPEED CONTROL BOARD	19	2	FUSE (50 AMPS)
7	1	HIGH LIMIT CONTROL	20	1	FUSE HOLDER (20 AMPS)
8	1	SWITCH ON/OFF	21	1	FUSE (20 AMPS)
9	1	POWER SUPPLY (DC)	22	2	FUSE HOLDER (3/8 AMPS)
10	1	THERMOCOUPLE TYPE K	23	2	FUSE (3/8 AMPS)
11	2	SOLID STATE RELAY	24	1	FUSE HOLDER (25 AMPS)
12	3	HEATSINK ASSEMBLY	25	1	FUSE (25 AMPS)
13	1	SOLID STATE RELAY	26	1	FUSE (2 AMPS)
14	1	TEMPERATURE CONTROLLER			



No.	Qty	REFERENCE
1	2	MOTOR HIGH TEMPERATURE
2	1	TERMINAL BLOCK 7 POLE 250v
2.1	1	TERMINAL BLOCK 15 POLE 250v
3	2	AXIAL FAN
4	1	GEARMOTOR DRIVE(DC) FOR BELT
5	1	TEMPERATURE CONTROLLER
6	1	SPEED CONTROL BOARD
7	1	HIGH LIMIT CONTROL
8	1	SWITCH ON/OFF
9	1	POWER SUPPLY (DC)
10	1	THERMOCOUPLE TYPE K
11	4	SOLID STATE RELAY
12	5	HEATSINK ASSEMBLY
13	1	SOLID STATE RELAY
14	1	TEMPERATURE CONTROLLER

No.	Qty	REFERENCE
15	1	TRANSFORMER 600v PRIMARY 220/110v SECONDARY
	1	TRANSFORMER 480v PRIMARY 220/110v SECONDARY
	1	TRANSFORMER 240v PRIMARY 110v SECONDARY
	1	TRANSFORMER 208v PRIMARY 110v SECONDARY
16	6	ELEMENT OPEN COIL (208v)
	6	ELEMENT OPEN COIL (240v)
	6	ELEMENT OPEN COIL (480v)
17	1	THERMINAL BLOCK 3 POLES,
18	4	FUSE HOLDER (50 AMPS)
19	4	FUSE (50 AMPS)
20	1	FUSE HOLDER (20 AMPS)
21	1	FUSE (20 AMPS)
22	2	FUSE HOLDER
23	2	FUSE (3/8 AMPS)



No.	Qty	REFERENCE
1	2	MOTOR HIGH TEMPERATURE
2	1	TERMINAL BLOCK 7 POLE 250v
2.1	1	TERMINAL BLOCK 15 POLE 250v
3	2	AXIAL FAN
4	1	GEARMOTOR DRIVE(DC) FOR BELT
5	1	TEMPERATURE CONTROLLER
6	1	SPEED CONTROL BOARD
7	1	HIGH LIMIT CONTROL
8	2	SWITCH ON/OFF
9	1	POWER SUPPLY (DC)
10	1	THERMOCOUPLE TYPE K
11	6	SOLID STATE RELAY
12	7	HEATSINK ASSEMBLY
13	1	SOLID STATE RELAY
14	1	TEMPERATURE CONTROLLER

No.	Qty	REFERENCE
15	1	TRANSFORMER 240v PRIMARY 110v SECONDARY
	1	TRANSFORMER 208v PRIMARY 110v SECONDARY
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18	6	FUSE HOLDER (50 AMPS)
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20	1	FUSE HOLDER (20 AMPS)
21	1	FUSE (20 AMPS)
22	2	FUSE HOLDER (3/8 AMPS)
23	2	FUSE (3/8 AMPS)
24	1	FUSE HOLDER (25 AMPS)
25	1	FUSE (25 AMPS)
26	1	FUSE (2 AMPS)

TROUBLESHOOTING

WARNING: CERTAIN PROCEDURES IN THIS SECTION REQUIRE ELECTRICAL TESTS OR MEASUREMENTS WHILE POWER IS APPLIED TO THE MACHINE. EXERCISE EXTREME CAUTION AT ALL TIMES. IF TEST POINTS ARE NOT EASILY ACCESSIBLE, DISCONNECT POWER, ATTACH TEST EQUIPMENT AND REAPPLY POWER TO TEST.

SYMPTOMS	POSSIBLE CAUSES
Blower motor(s) and cooling fans not operating with power switch on.	1. Line voltage incorrect. 2. Master switch malfunction. 3. Fuse open. 4. Solid state relay inoperative. 5. Motors inoperative. 6. Interconnecting wiring malfunction.
Blower motor(s) operates; all heat elements do not operate.	1. High limit thermostat open. 2. Fuses open. 3. DC power supply module inoperative. 4. Temperature control malfunctioning.
Low heat.	1. One or more elements not functioning. 2. Fuse open. 3. Element solid state relay inoperative. 4. Interconnecting wiring malfunction.
Belt does not turn.	1. Direction switch in off position. 2. Chain or gear malfunction. 3. Fuse open. 4. Drive motor inoperative. 5. Speed control malfunction.
Belt jumps.	1. Chain loose.
Excessive or low heat.	1. Temperature probe malfunction. 2. Temperature control inoperative.
Uneven cooking.	1. Air distribution incorrect. 2. Blower motor malfunctioning.
Speed display shows “OL”.	1. Belt stuck or jammed. 2. Drive motor overloaded.
Intermittent problems.	1. High ambient temperatures. 2. Wiring connections loose. 3. Cooling fan malfunction.
Cooking is not even.	1. Air distribution panels need adjustment.